Lung Cancer Screening:

Availability of Low-Dose Computed Tomography Services in Maine

June 2020

Maine Center for Disease Control and Prevention
Division of Disease Prevention
Chronic Disease Prevention and Control Program
Comprehensive Cancer Control Program
286 Water Street, 4th Floor
11 State House Station
Augusta, ME 04333

Acknowledgements

The Maine CDC Comprehensive Cancer Control Program would like to thank the following facilities for their participation in the production of this scan: Central Maine Medical Center; Northern Light Blue Hill Memorial Hospital; Down East Community Hospital; Northern Light Eastern Maine Medical Center; Northern Light Mercy Hospital; Northern Light – Dearborn Imaging Center; Northern Light Sebasticook Valley Hospital; Franklin Memorial Hospital; MaineGeneral Medical Center – Alfond Center for Health; MaineGeneral Medical Center – Thayer Center for Health; Maine Medical Center; Mayo Regional Hospital; Southern Maine Health Care; St. Joseph Hospital; Waldo County General Hospital; York Hospital in York; York Hospital in Wells.

INTRODUCTION

Since 2002, cancer has been the leading cause of death in Maine, and lung cancer has consistently been the leading cause of cancer-related death.[1] In fact, between 2014-2016, over 70 percent of those 55 and older were diagnosed with lung cancer at a late stage (72.1%).[2] Persons diagnosed with early-stage lung cancer have lower lung cancer–related mortality than those diagnosed with late-stage disease. Over the past decade, lung cancer incidence (73.5 per 100,000) and mortality (46.5 per 100,000) rates in Maine have been significantly higher than the U.S. rates (56.0 per 100,000 and 38.5 per 100,000, respectively).[2] In 2016 there were 1,453 new cases of lung cancer diagnosed and there were 914 deaths due to lung cancer in Maine.[2] Results from the National Cancer Institute's National Lung Screening Trial (NLST) found a 20 percent reduction in deaths from lung cancer among current or former heavy smokers who were screened with low-dose computed tomography (LDCT) versus individuals screened by chest x-ray.[3] The NLST study, which included over 50,000 participants, began in 2002 and followed participants through 2009. This was the seminal research study employed to determine the efficacy of LDCT lung cancer screening and its inclusion as a covered clinical screening.

In December 2013, the U.S. Preventive Services Task Force (USPSTF) issued a final recommendation statement on clinical guidelines for lung cancer screening (last reviewed in 2004).[4] Although the USPSTF is in the process of updating their guidelines for lung cancer screening, their current recommendation is summarized in the chart below.

Population	Recommendation	Grade = B
Adults Aged 55-80, with a History of Smoking	The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.

Under the Affordable Care Act (ACA), cancer screening is considered a preventive service and included under the Act's Minimum Essential Benefits. All ACA-compliant health plans are required to cover lung cancer screening, and in most cases, must be 100% covered by the plan. It is noted, however, that some services associated with the screening service may involve out-of-pocket costs.

Since 2016, the Maine CDC Comprehensive Cancer Control Program (MCCCP) has conducted an annual survey to assess which facilities in Maine are equipped and trained to provide the recommended LDCT screening during the previous calendar year. This report summarizes the findings of the most recent 2020 survey (capturing lung cancer screening during 2019) along with comparisons to the previous four years of survey findings, where relevant.

METHODOLOGY

During the first year of the survey, MCCCP established a list of facilities in Maine providing LDCT lung cancer screening. This list was compiled by contacting lung cancer screening facilities accredited by the American College of Radiology, imaging centers identified through an internet search, and connections through the facilities contacted. Beginning in year two (and in each subsequent year) of the survey, the list was shared with

the Maine Lung Cancer Coalition (MLCC) to confirm current contacts and provide any updates. At the end of each survey, the contact list was updated with the most recent information provided by the facilities through the survey responses.

Throughout the five years of the survey, the core questions have assessed: where LDCT lung cancer screenings were taking place in Maine, which screening guideline(s) facilities were using, how many individuals had been screened during the previous year, and perceived barriers to lung cancer screening (this question was also asked of facilities that were not doing screening to gain a better understanding of why lung cancer screening was challenging for those facilities). Working in collaboration with the MLCC, several questions were added to the survey over the years. (See Appendix A for the 2020 survey tool.) All survey answers were shared with the MLCC with permission from all survey respondents.

SURVEY FINDINGS

Facilities Providing Lung Cancer Screening

The current 2020 survey had a total of 17 facilities responding with 15 facilities reporting providing lung cancer screening during 2019. Table 1 depicts the facilities that reported providing lung cancer screening over the past five years of the survey. Fourteen of the 15 facilities reporting they provided LDCT lung cancer screening

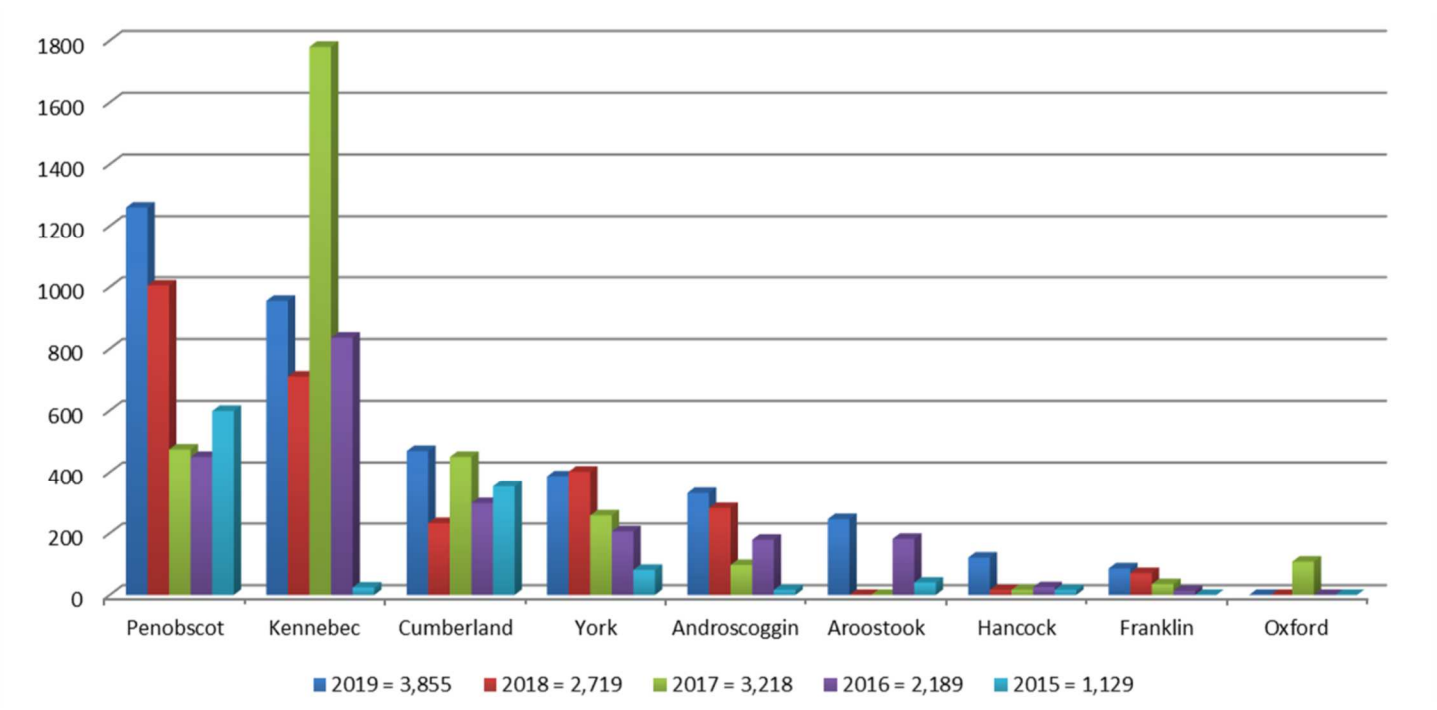
Table 1. Maine Facilities Providing Lung Cancer Screening by County

County and Hospitals	2019	2018	2017	2016	2015
Androscoggin					
• Central Maine Medical Center	✓	✓	✓	✓	
• St. Mary's Regional Medical Cancer		✓	✓	✓	✓
Aroostook					
• Cary Medical Center	✓			✓	✓
Cumberland					
• Maine Medical Center	✓	✓	✓	✓	✓
• Northern Light Mercy Hospital	✓	✓	✓	✓	✓
• Northern Light Mercy Hospital – Dearborn Imaging Center	✓	✓	✓	✓	✓
Hancock					
• Northern Light Blue Hill Hospital	✓		✓		
• Maine Coast Memorial					✓
• Mount Desert Island Hospital		✓	✓	✓	✓
Franklin					
• Franklin Memorial Hospital	✓	✓	✓	✓	
Kennebec					
• MaineGeneral Medical Center – Alfond Center for Health	✓	✓	✓	✓	✓
• MaineGeneral Medical Center – Thayer Center for Health	✓	✓	✓	✓	✓
• Maine Veterans Affairs Medical Center – Togus		✓	✓	✓	

Oxford • Stephens Memorial Hospital			✓		
Penobscot • Northern Light Eastern Maine Medical Center • Millinocket Regional Hospital • Penobscot Valley Hospital • St. Joseph Hospital	✓ ✓	✓ ✓	✓ ✓ ✓ 	✓ ✓ 	✓ ✓
Somerset • Northern Light Sebasticook Valley Hospital	✓				
York • Southern Maine Health Care • York Hospital – Wells • York Hospital – York	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
Total Per Year	**15**	**15**	**18**	**16**	**14**

during 2019 were able to offer data on those screenings. Based on the data acquired from those 14 facilities, 3,855 individuals had a baseline screening LDCT for lung cancer during 2019. Penobscot County provided approximately one-third of the baseline screenings at 1,260. Figure 1 represents those facilities that were able to provide baseline screening LDCT lung cancer screening data by county over the past five years.

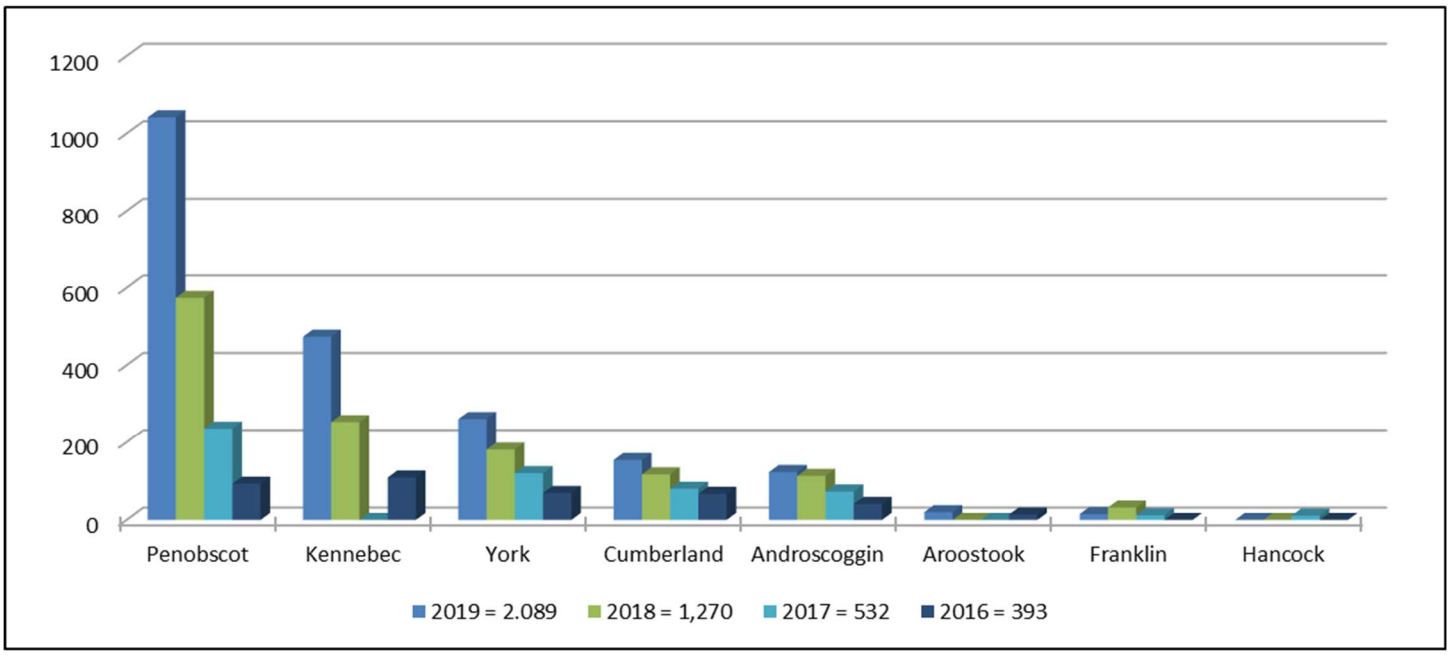
Figure 1. Reported Baseline Screening LDCT Lung Cancer by County



Eight of the facilities were able to breakdown their baseline screenings by sex and reported that approximately 1,026 males and 972 females were screened for lung cancer. A question new to the survey this year asked if the facilities collected LGBTQ+ information on the persons being screened. Two indicated “Don’t know,” 12 responded “No,” and one facility indicated that they have “other” as an option. Thirteen facilities reported

performing approximately 2,089 annual follow-up screenings for lung cancer (Figure 2) which is up considerably from the first year the question was included. (The follow-up screening question was not asked in the first year of the survey, therefore, Figure 2 only contains the last four years of data.) Of the estimated lung cancer screenings (both baseline and annual follow-up), seven facilities reported approximately 37 LDCT screenings resulting in a lung cancer diagnosis during 2019.

Figure 2. Annual Follow-up Lung Cancer Screening



Reported Evidence-Based Screening Guidelines Used by Facilities

Of the 15 facilities reporting providing LDCT lung cancer screening during 2019, the majority reported following either the Centers for Medicare & Medicaid Services (CMS) or USPSTF recommendations for defining screening eligibility (Table 2). Both CMS and USPSTF have been the top reported guidelines used by facilities over the past five years of this survey. Facilities were asked to check all screening guidelines they utilize – many reported using more than one, and as many as three. A comparison of current evidence-based lung cancer screening guidelines and recommendations from several national organizations has been included as Appendix B and is also available from the U.S. CDC at https://www.cdc.gov/cancer/lung/pdf/lung-cancer-screening-recommendations-508.pdf.

Overall, the recommendations define the population eligible for screening to be:

1) Asymptomatic adults at least 55 years of age;
2) Have a 30-pack year smoking history (smoking an average of one pack every day for 30 years); and
3) Either a current smoker or have quit within the past 15 years.

There are two main types of LDCT lung cancer screening programs: “open” and “closed.” Open programs allow primary care or other physicians to directly order LDCT screening for the patients without the involvement of other clinicians. Closed programs require physicians to first refer patients to an established LDCT screening program consisting of other clinicians, who conduct pre-screening evaluations and counseling, and order LDCT

screening and follow-up care as needed. Thirteen facilities reported having an open program, and two responded they have closed programs. When asked which type of program they preferred, eight responded open, three answered closed, and four did not have a preference.

Table 2. Reported Lung Cancer Screening Recommendations

Lung cancer screening guidelines used by Maine facilities	Number of facilities using guidelines				
	2019	2018	2017	2016	2015
Centers for Medicare & Medicaid Services • 55-77 years old • 30 or more pack year smoking history • Currently smoke or have quit within the past 15 years	8	6	9	5	4
U.S. Preventive Services Task Force • 55-80 years old • 30 or more pack year smoking history • Currently smoke or have quit within the past 15 years	5	4	7	6	6
American Cancer Society • 55-74 years old • 30 or more pack year smoking history • Currently smoke or have quit within the past 15 years • In relatively good health	4	2	6	3	0
American College of Chest Physicians • 55-74 years old • 30 or more pack year smoking history • Currently smoke or have quit within the past 15 years	0	0	1	0	1
National Comprehensive Cancer Network **1.** 55-74 years old, 30 or more pack year smoking history and currently smoke or have quit within the past 15 years **2.** 50 years or older, 20 or more pack year smoking history and one additional risk factor (other than secondhand smoke exposure)	4	3	4	1	2
American Association of Thoracic Surgery 1. Age 55-79 years old with a 30 or more pack-year history 2. Long-term lung cancer survivor who can tolerate lung cancer treatment in order to detect second primary lung cancer until the age of 79 **3.** Age 50 to 79 years old with a 20 pack-year smoking history and additional comorbidity	0	1	3	0	0
American Lung Association • Age 55-74 years old • 30 or more pack year smoking history • No history of lung cancer	0	0	1	0	0
American College of Radiology • A non-profit professional medical association • They support the U.S. Preventive Services Task Force recommendations	2	0	1	0	0
Guidelines unique to a facility	0	0	0	2	1

Reported Shared Decision Making as Part of Lung Cancer Screening

All but one of the 15 facilities require a patient to have a shared decision-making visit with a healthcare provider before being screened for lung cancer. Ten facilities reported that a referring physician or provider

was responsible for conducting a shared decision-making visit. The other five sites responded that someone affiliated with the institution's LDCT lung cancer screening program such as a primary care practitioner or a nurse practitioner performed the shared decision-making visit. Many facilities reported utilizing a Patient Navigator (PN) or other designated staff to coordinate and manage LDCT screening activities including determining screening eligibility, shared decision-making counseling, scheduling, and follow-up. Twelve of the 15 facilities reported the use of a PN ranging from 5-40 hours per week depending on the facility. Most facilities (14) reported that they confirm whether patients who are referred for LDCT screening meet eligibility criteria before the test is performed.

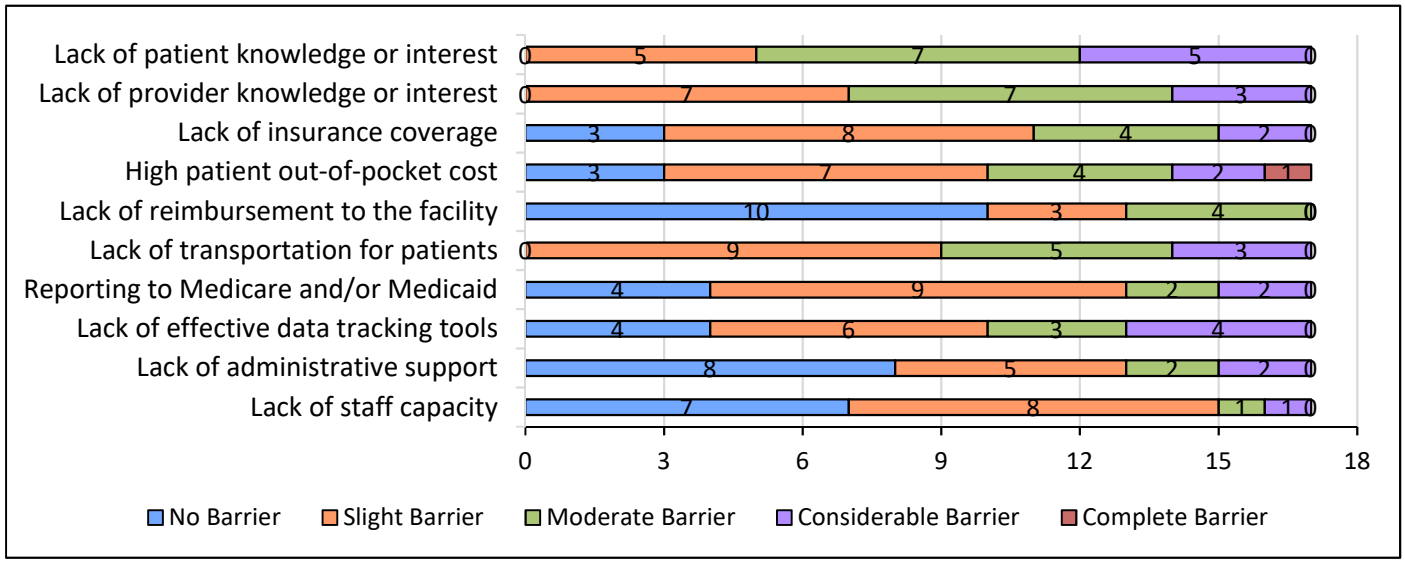
Ten facilities reported providing a decision aid(s) or decision support tool(s) to their patients, three facilities do not, and two respond "don't know." The following is a list of the reported decision aids utilized by the 10 facilities:

- Self-developed / In-house developed tool
- AHRQ – Is Lung Cancer Screening Right for Me?
- Handouts (no specific ones mentioned)
- FAQ sheet with Q&A from the Lung Cancer Screening Center

Reported Barriers to Providing Lung Cancer Screening Services

The survey has employed a Likert Scale for the past three years to assess the degree to which each barrier to LDCT lung cancer screening was identified as an issue for facilities. Chart 1 includes responses from all 17 facilities regardless of whether they are screening for lung cancer. Overall, it appears that more facilities are reporting "No Barrier" and/or "Slight Barrier" for each of the categories in the current survey than they have in past. The work that has taken place around lung cancer screening in Maine through the MLCC and other organizations like Maine's Impact Cancer Network (the cancer coalition for the state) has helped to improve

Chart 1. Reported Barriers to Lung Cancer Screening, 2019



* Includes responses from all 17 facilities.

the barriers to screening that facilities had encountered in the past. Highlights of some of the current barriers are listed below:

- Some facilities still struggle with "Lack of patient knowledge or interest" and "Lack of provider knowledge or interest," although this has improved over the five years of the survey.
- Barriers associated with the cost of the screening test also appear to have been alleviated somewhat. One facility did report "High patient out-of-pocket cost" to be a "Complete Barrier," but this was a facility that is not currently doing LDCT lung cancer screening and may be contributing to the reason they are not able to provide the service.
- "Lack of transportation for patients" may have increased slightly, but that may be due to the increased number of screenings being done.
- The barriers of "Reporting to Medicare and/or Medicaid" and "Lack of effective data tracking tools" have improved over the years. This is the first year that no facility reported either as a "Complete Barrier."
- Facilities appear to have increased their "Lack of administrative support" and "Lack of staff capacity." In the past, many reported both as a complete barrier.

One facility added that "Lack of ways to conduct a tele-Shared Decision-Making visit to serve rural Maine" is also a barrier. With the substantial uptake in tele-health services due to the coronavirus, it's possible that this may be addressed in the near future. Although barriers to lung cancer screening appear to be improving overall, difficulties continue to persist at many facilities in Maine as no facility reported having no barriers to screening in every category.

Reported Smoking Cessation as Part of Lung Cancer Screening

Smoking cessation is an important aspect of the lung cancer screening process and is part of the shared decision-making visit. Counseling on the importance of smoking cessation if a current smoker and providing information about tobacco cessation interventions for the patient, if appropriate, is required by CMS.[5] Survey participants were asked if a current smoker is eligible for screening, are they then referred to tobacco cessation services/treatment resources. Four of the facilities reported that they do refer current smokers to tobacco cessation, nine responded that they do not, and two replied that they "Don't know." Of the four facilities that do refer, the healthcare provider or the screening facility makes the referral to their own in-house cessation services, the Maine Tobacco HelpLine (MTHL), or 1-800-QUIT-NOW. It was noted by one facility that the MTHL is one tool in their toolbox and may not fit the needs of every patient.

The USPSTF recommends that health care providers engage in a brief intervention at every visit with their patients who use tobacco. Asking all patients about their tobacco use and advising them to stop using tobacco has been cited as an important motivator for making a quit attempt.[6] Providing appropriate behavioral interventions as well as U.S. Food and Drug Administration-approved pharmacotherapy to assist with cessation have also been proven effective.[7]

CONCLUSION

In 2020 it is estimated that there will be 1,430 new lung cancer cases and 870 lung cancer deaths in Maine.[8] The five-year survival rate of lung cancer is one of the lowest among all cancers, however, the screening of high-risk individuals using current recommended guidelines could improve survival rates in Maine by finding lung cancer early when treatment may be more successful.[9]

The results from this survey reflect feedback from 15 facilities providing lung cancer screening services in Maine during 2019 and two that do not. This was the fifth and final year of the survey and report of the availability of LDCT lung cancer screening in Maine. In the next year, the MCCCP plans to compile a white paper on lung cancer screening in Maine over that past five years of the survey. As evidence-based lung cancer screening guidelines and practices have evolved over the last five years, the white paper will summarize what has transpired in Maine regarding the knowledge and promotion of lung cancer screening.

References

1. *Maine Cancer Surveillance Report 2014.* Augusta, ME: Maine Center for Disease Control and Prevention; 2015. Available at: http://www.maine.gov/dhhs/mecdc/population-health/ccc/documents/MaineCancerSurveillanceReport2014.pdf
2. *The Maine 2020 Annual Report of Cancer.* Augusta, ME: Maine Center for Disease Control and Prevention; 2020. In progress.
3. The National Lung Screening Trial Research Team. *Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening*. New England Journal of Medicine, 2011; 365(5):395-409. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4356534/
4. *Final Recommendation Statement: Lung Cancer: Screening. U.S. Preventive Services Task Force. October 2014.* Available at: https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/lung-cancer-screening
5. *Decision Memo for Screening for Lung Cancer with Low Dose Computed Tomography (LDCT) (CAG-00439N). Centers for Medicare & Medicaid Services. July 2019. Available at:* https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=274
6. Fiore M.C., Jaén C.R., Baker T.B., et al. *Treating Tobacco Use and Dependence: 2008 Update.* Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008. Available at: https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/clinicians-providers/guidelines-recommendations/tobacco/clinicians/update/treating_tobacco_use08.pdf
7. *Final Update Summary: Tobacco Smoking Cessation in Adults, Including Pregnant Women: Behavioral and Pharmacotherapy Interventions*. U.S. Preventive Services Task Force. September 2015. Available at: https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions1?ds=1&s=tobacco%20cessation
8. American Cancer Society. *Cancer Facts & Figures 2020.* Atlanta: American Cancer Society; 2020. Available at: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2020.html
9. Li ZY, Luo L, Hu YH, Chen H, Den YK, Tang L, Liu B, Liu D, Zhang XY. *Lung Cancer Screening: A Systematic Review of Clinical Practice Guidelines.* International Journal of Clinical Practice, 2016; 70(1):20-30. Available at: http://onlinelibrary.wiley.com/doi/10.1111/ijcp.12744/epdf

Appendix A: 2020 MCCCP Lung Cancer Screening: Facility Survey

Lung Cancer Screening Survey – 2020

This survey asks for information about lung cancer screenings at your facility during 2019. If you did provide lung cancer screening in 2019, having the data on the number of screenings available to you before you begin the survey may help to expedite the process. If your facility is not currently providing lung cancer screening, we would still appreciate your responses to a few of the questions (specifically – 1, 2, 3, and 37, 38, 39 & 40 beginning on the bottom of page 6 to the end).

As a reminder, the Maine CDC continues to collaborate with the Maine Lung Cancer Coalition to reduce the amount of surveys and questions asked of lung cancer screening facilities. Information from the survey will be shared with the Maine Lung Cancer Coalition unless you indicate differently within the survey. Identifiable information will not be shared or distributed outside of these two organizations.

Facility Information

1. Contact Information

Your Name: _____

Facility Name: _____

Address: _____

City/town: _____

Email: _____

Phone: _____

2. Which of the following best describes your role at your facility?

- Doctor/Radiologist
- Imaging Department Administration
- Lung cancer screening program manager/coordinator
- Nurse
- Nurse Practitioner
- Patient Navigator for Lung Cancer Screening
- Physician Assistant
- Radiology Technician
- Technologist
- Other (please specify) _____

3. Please confirm that your facility is currently using Low-Dose Computed Tomography (LDCT) to screen for lung cancer.

- Yes
- No (If you answered “No,” please skip to question number 37 on page 7.)

Eligibility Criteria for Lung Cancer Screening at Your Facility

Please indicate the eligibility criteria used by your facility related to lung cancer screening.

4. What is the age range your facility requires for lung cancer screening? _____

5. What is the minimum smoking history (number of "pack years") your facility requires for lung cancer screening eligibility? (Pack year = number of packs smoked per day multiplied by the number of years smoked.)

_____

6. Does an individual need to be a current smoker to be eligible for lung cancer screening at your facility?

- Yes
- No
- Don't know

7. To be eligible for lung cancer screening, what is the maximum number of years since a person has quit smoking allowed by your facility? _____

8. Are there any other qualifications required to be eligible for lung cancer screening at your facility?

Screening Guidelines

9. Which lung cancer screening guideline(s) does your facility follow? (Check all that apply)

- American Association of Thoracic Surgery
- American Cancer Society
- American College of Chest Physicians
- American Lung Association
- American Society of Clinical Oncology
- Centers for Medicare & Medicaid Services
- National Comprehensive Cancer Network
- US Preventive Services Task Force
- Don't know
- Other (please specify) _____

Screening Data at Your Facility

There are two main types of LDCT screening programs: "open" and "closed." Open programs allow primary care or other physicians to directly order LDCT screening for the patients without the involvement of other clinicians. Closed programs require physicians to first refer patients to an established LDCT screening program consisting of other clinicians, who conduct pre-screening evaluations and counseling, and order LDCT screening and follow-up care as needed.

10. Is your LDCT screening program an “open” program or a “closed” program?

- Open
- Closed
- Other (please specify) _____

11. Which type of program do you prefer?

- Open
- Closed
- Neither (no preference)
- Other (please specify) _____

12. When did your facility begin offering lung cancer screenings? (mm, yyyy) _____

13. Is your facility accredited for LDCT screening by any professional organizations?

- Yes
- No (If you answered “No,” please skip to question 15)
- Don’t know (If your answer is “Don’t know,” please skip to question 15)

14. Which professional organization(s) is your LDCT screening program accredited by? (Please select any that apply.)

- American College of Radiology
- Lung Cancer Alliance
- Don’t know
- Other (please specify) _____

15. Does your facility submit data to the American College of Radiology Lung Cancer Screening Registry?

- Yes
- No
- Don’t know

16. How many **baseline screening** LDCTs were performed at your facility in 2019? (NOTE: do not include 6-month follow-up LDCTs performed in response to an abnormal finding on a screening CT.) _____

17. How many **annual follow-up screening** LDCTs were performed in 2019 at your facility? (NOTE: do not include 6-month follow-up LDCTs performed in response to an abnormal finding on a screening CT.) _____

18. For baseline screening LDCTs, please breakdown by sex of the individual.

- Males _____
- Females _____

19. How many screening LDCTs resulted in a lung cancer diagnosis at your facility in 2019? _____

20. Does your facility collect LGBTQ+ information from persons being screened for lung cancer?

- Yes
- No (skip to 22)
- Don't know (skip to 22)

21. Which of the following sexual and minority choices do you offer patients? (select all that apply)

- Lesbian
- Gay
- Bisexual
- Transgender
- Queer
- Other _____

Shared Decision Making

Please answer the following questions about your facility's protocols for shared decision making.

22. Does your facility confirm whether patients who are referred for LDCT screening meet eligibility criteria before screening is performed?

- Yes
- No
- Don't know

23. Does your facility require a patient to have a shared decision-making visit with a healthcare provider before being screening for lung cancer?

- Yes
- No
- Don't know

24. At your facility, which healthcare provider has primary responsibility for conducting the shared decision-making visit with the patient?

- Referring physician
- Physician affiliated with the institution's LDCT screening program
- Nurse practitioner affiliated with the institution's LDCT screening program
- Other (please specify) _____

25. Does your facility provide any type of "decision aid" or decision support tool (e.g., written material, software or web-based program) to patients to help them decide about LDCT screening?

- Yes
- No (If you answered "No," please skip to question 27.)
- Don't know (If your answer is "Don't know," please skip to question 27.)

26. What decision aid(s) or decision support tool(s) do you use?

27. Would your facility be interested in receiving patient education and counseling resources (brochures, online decision aids) to help patients understand the pros and cons of lung cancer screening?

- Yes
- No

28. Does your facility utilize a Patient Navigator or some other designated staff person to coordinate and manage LDCT screening activities (e.g. determination of screening eligibility, shared decision-making counseling, scheduling and follow-up)?

- Yes
- No (If you answered "No," please skip to question 30.)
- Don't know (If your answer is "Don't know," please skip to question 30.)

29. Please estimate the number of hours per week this person devotes to these activities. _____

Screening and Tobacco Referral

Please answer the following questions about lung cancer screening and patient referrals to tobacco cessation treatment at your facility.

30. If a current smoker is screened for lung cancer, does the screening protocol at your facility include a referral to tobacco cessation services regardless of diagnosis?

- Yes
- No (If you answered "No," please skip to question 32.)
- Don't know (If your answer is "Don't know," please skip to question 32.)

31. Who at your facilities refers screened patients who are current smokers to tobacco cessation services?

- Healthcare provider
- Screening facility
- Don't know
- Other (please specify) _____

32. Where are patients at your facility referred for tobacco cessation treatment? (Check all that apply)

- In-house cessation services
- Community/Local cessation services
- Maine Tobacco HelpLine
- 1-800-QUIT-NOW
- Online cessation services (e.g., TheQuitLink.com or Smokefree.gov)
- Don't know
- Not applicable
- Other (please specify) _____

Screening Follow-up

33. Which of the following resources does your facility use to coordinate appropriate follow-up for patients who have received LDCT screening? (please select all that apply)

- Designated staff person (e.g., nurse, medical assistant, patient navigator)
- Commercial software program or electronic health record (EHR) tool
- Dedicated lung cancer screening data registry
- Automated (electronic) patient reminder system
- Other (please specify): _____
- None
- Don't know

34. Does your facility have a **standardized process or care pathway** for coordinating appropriate follow-up for patients who have received LDCT screening?

- Yes
- No
- Don't know

35. Who at your facility has **primary** responsibility for coordinating appropriate follow-up for patients with **normal** LDCT scan results?

- Referring physician (e.g., primary care physician)
- Facility staff person (e.g., physician, nurse, medical assistant, patient navigator)
- Other (please specify): _____
- Don't know

36. Who at your facility has **primary** responsibility for coordinating appropriate follow-up for patients with **abnormal** LDCT scan results?

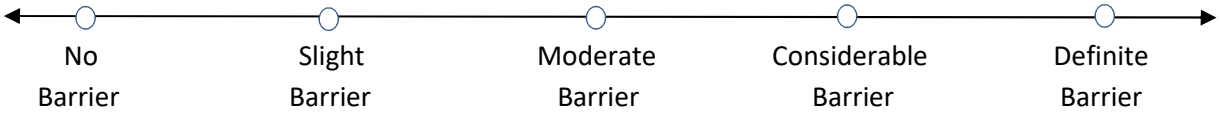
- Referring physician (e.g., primary care physician)
- Facility staff person (e.g., physician, nurse, medical assistant, patient navigator)
- Other (please specify): _____
- Don't know

Final Questions

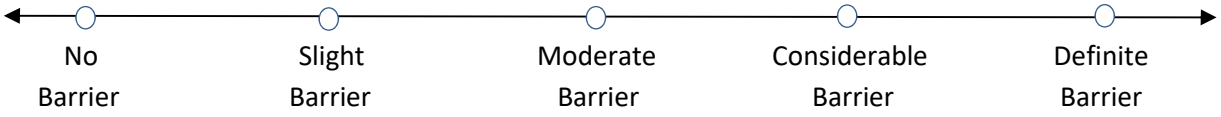
There are barriers to lung cancer screening that may preclude your facility from being able to provide lung cancer screening. On the other hand, if your facility is providing lung cancer screening, there can still be barriers that make the work challenging. Whichever category your facility falls into, please provide answers to the following topics on barriers to lung cancer screening from your facility's perspective.

37. In you/your facility's opinion, what are the greatest barriers to lung cancer screening at your facility, and the degree to which each is a barrier?

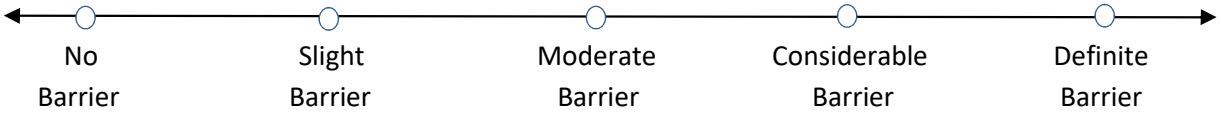
Lack of insurance coverage of patients



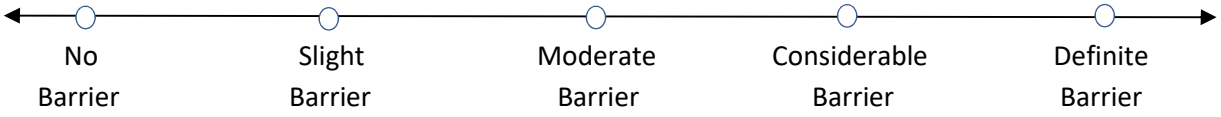
High patient out-of-pocket cost



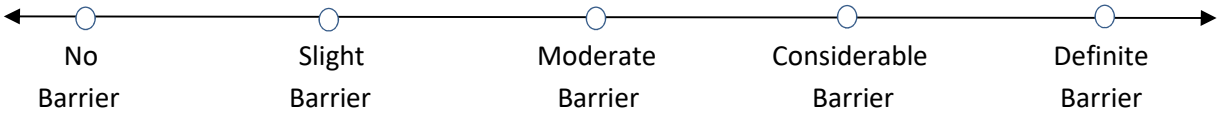
Lack of administrative support for lung cancer screening program



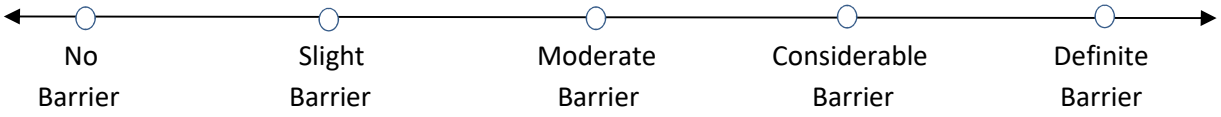
Lack of staff capacity



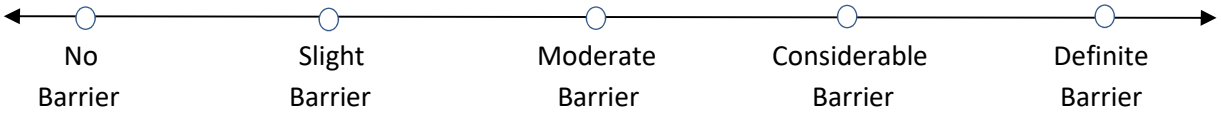
Lack of reimbursement to facility



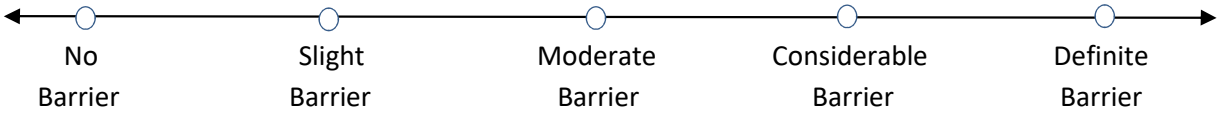
Reporting to Medicare and/or MaineCare (Medicaid)



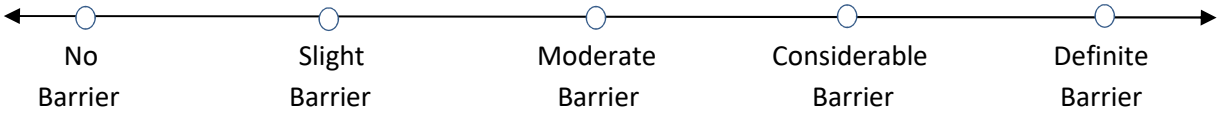
Lack of efficient/effective data tracking tools



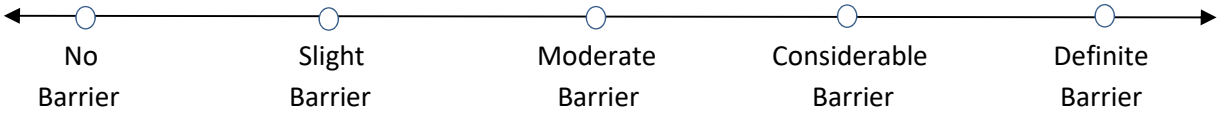
Lack of patient knowledge or interest in screening



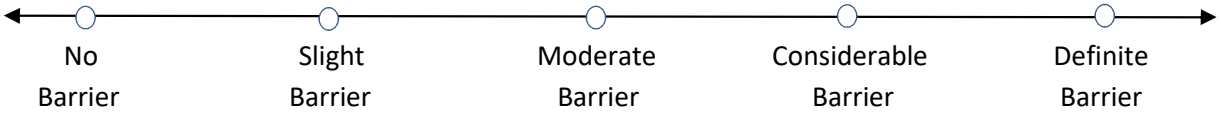
Lack of provider knowledge or interest in screening



Lack of transportation for patients



Other (please specify) _____



38. Would your facility be interested in participating in telemedicine initiatives to improve access to lung cancer screening for your population?

- Yes
- No

39. Are you willing to allow Maine CDC to share your responses with the Maine Lung Cancer Coalition?

- Yes
- No

40. Is there anything you would like to add?

Thank you for participating in the survey!

If you choose to respond to the survey using a paper copy, please mail the completed survey to:

Becky Pearce
Maine CDC Comprehensive Cancer Control Program
286 Water Street, 4th floor
11 SHS
Augusta, ME 04333-0011

Appendix B: Lung Cancer Screening Guidelines and Recommendations

Organization	Groups eligible for screening	Year
American Academy of Family Practice[1]	Evidence is insufficient to recommend for or against screening.	2013
American Association for Thoracic Surgery[2]	1. Age 55 to 79 years with ≥ 30 pack-year smoking history. 2. Long-term lung cancer survivors who have completed 4 years of surveillance without recurrence, and who can tolerate lung cancer treatment in order to detect second primary lung cancer until the age of 79. 3. Age 50 to 79 years with a 20 pack-year smoking history and additional comorbidity that produces a cumulative risk of developing lung cancer ≥ 5% in 5 years.	2012
American Cancer Society[3]	Age 55 to 74 years with ≥ 30 pack-year smoking history, either currently smoking or have quit within the past 15 years, and who are in relatively good health.	2013
American College of Chest Physicians[4]	Age 55 to 74 years with ≥ 30 pack-year smoking history and either continue to smoke or have quit within the past 15 years.	2013
American College of Chest Physicians and American Society of Clinical Oncology[5]	Age 55 to 74 years with ≥ 30 pack-year smoking history and either continue to smoke or have quit within the past 15 years.	2012
American Lung Association[6]	Age 55 to 74 years with ≥ 30 pack-year smoking history and no history of lung cancer.	2012
National Comprehensive Cancer Network[7]	1. Age 55 to74 years with ≥ 30 pack-year smoking history and smoking cessation < 15 years. 2. Age ≥ 50 years and ≥ 20 pack-year smoking history and 1 additional risk factor (other than secondhand smoke).[a]	2012
U.S. Preventive Services Task Force[8]	Age 55 to 80 years with ≥ 30 pack-year smoking history and smoking cessation < 15 years.	2013

[a] Additional risk factors include cancer history, lung disease history, family history of lung cancer, radon exposure, occupational exposure, and history of chronic obstructive pulmonary disease or pulmonary fibrosis. Cancers with increased risk of developing new primary lung cancer include survivors of lung cancer, lymphomas, cancer of the head and neck, and smoking-related cancers. Occupational exposures identified as carcinogens targeting the lungs include silica, cadmium, asbestos, arsenic, beryllium, chromium (VI), diesel fumes, and nickel.

Continued **- Lung Cancer Screening Guidelines and Recommendations: References**

1. American Academy of Family Physicians. Lung cancer clinical recommendations. Available at: http://www.aafp.org/patient-care/clinical-recommendations/all/lung-cancer.html. Accessed September 9, 2016.

2. Jaklitsch MT, Jacobson FL, Austin JH. The American Association for Thoracic Surgery guidelines for lung cancer screening using low-dose computed tomography scans for lung cancer survivors and other high-risk groups. *Journal of Thoracic and Cardiovascular Surgery* 2012;144(1):33–38. DOI: 10.1016/j.jtcvs.2012.05.060. Available at: http://www.ncbi.nlm.nih.gov/pubmed/22710039.

3. Smith RA, Andrews K, Brooks D, DeSantis CE, Fedewa SA, Lortet-Tieulent J, et al. Cancer screening in the United States, 2016: A review of current American Cancer Society guidelines and current issues in cancer screening. *CA: A Cancer Journal for Clinicians* 2016;66(2):96–114. Available at: http://www.ncbi.nlm.nih.gov/pubmed/26797525.

4. Detterbeck FC, Mazzone PJ, Naidich DP, Bach PB. Screening for lung cancer: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest* 2013;143(5 Suppl):e78S–92S. DOI: 10.1378/chest.12-2350. Available at: http://www.ncbi.nlm.nih.gov/pubmed/23649455.

5. Bach PB, Mirkin JN, Oliver TK. Benefits and harms of CT screening for lung cancer: a systematic review. *JAMA* 2012;307(22):2418–2429. DOI: 10.1001/jama.2012.5521. Available at: http://www.ncbi.nlm.nih.gov/pubmed/22610500.

6. American Lung Association. Providing guidance on lung cancer screening to patients and physicians. An update from the American Lung Association Screening Committee. April 30, 2015. Available at: http://www.lung.org/assets/documents/lung-cancer/lung-cancer-screening-report.pdf. Accessed September 9, 2016.

7. Wood DE, Eapen GA, Ettinger DS. Lung cancer screening. *Journal of the National Comprehensive Cancer Control* 2012;10(2):240–265. Available at: http://www.ncbi.nlm.nih.gov/pubmed/22308518.

8. National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology. Lung cancer screening. Version 2. 2016.

The Department of Health and Human Services (DHHS) does not discriminate on the basis of disability, race, color, creed, gender, sexual orientation, age, or national origin, in admission to, access to, or operations of its programs, services, or activities, or its hiring or employment practices. This notice is provided as required by Title II of the Americans with Disabilities Act of 1990 and in accordance with the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972 and the Maine Human Rights Act and Executive Order Regarding State of Maine Contracts for Services. Questions, concerns, complaints or requests for additional information regarding the ADA may be forwarded to DHHS' ADA Compliance/EEO Coordinators, 11 State House Station – 221 State Street, Augusta, Maine 04333, 207-287-4289 (V), 207-287-3488 (V), TTY users call Maine relay 711. Individuals who need auxiliary aids for effective communication in program and services of DHHS are invited to make their needs and preferences known to the ADA Compliance/EEO Coordinators. This notice is available in alternate formats, upon request.